POTENTIAL EVALUATION OF CYTOTOXIC 2-TETRADECYLCYCLOBUTANONE LINEAGE IN CELLULAR BRL 3A - *STUDIES IN VITRO*

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Introduction: 2-Tetradecylcyclobutanone (2-tDCB) is a radiolytic product generated from foods with fatty acids (triglycerides) which was also subjected to irradiation in parts of the 2-tDCB ingested and excreted by means of the feces and part were deposited in adipose tissue. Thus, studies have been worked recently only in colon cells. In this present work, Liver cells BRL 3A line were chosen since the accumulation of fat in the body is quite common.

Objective: In order to evaluate the possible cytotoxic damage by cell viability test MTT. It was observed the influence 2-tDCB in different concentrations of different incubation times in liver cells BRL3A lineage.

Methods: The compound 2-tDCB was solubilized in 2% ethanol where the selected line is derived from normal rat liver (BRL3A). In addition, they were grown in culture medium supplemented with 10% fetal bovine serum. Cells were plated at the density $4X10^3$ cells/ well in a 96 well plate. The cytotoxic effect of 2-tDCB was evaluated at concentrations of 100, 300 and 500µM for 24 to 48 hours. Furthermore, all the tests were performed according to kit MTT in triplicates and the results were analyzed by GraphPad Prism.

Results: As a result, the lines treated with 2-tDCB in 24 hours, cytotoxicity appeared in concentrations from 300µM. In the period from 48 hours showed only change in the concentration of 300µM.

Conclusion: In conclusion, the 2-tDCB compound exhibits significant cytotoxicity in 24-hour period in BRL3A line from the concentration of 300µM and a slight effect 48h period was observed for 100µM concentration. In fact, samples with 300µM showed a little more pronounced. Therefore, future studies will be necessary to identify the molecular mechanisms where compound in question operates.

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