

Evaluation of Cytotoxicity of pesticides dicamba and lambda-cyhalothrin on the neuroblastoma cell line SH-SY5Y

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The pesticides Lambda-cyhalothrin and Dicamba are substances used to preserve plantations from the harmful action of living beings. As a result of the growth of agribusiness, the use of pesticides is increasing, having great impact on public health, as it has the potential to cause changes in the cellular metabolism. The evaluation of cytotoxicity verifies a possible alteration in cell metabolism after exposure to such substances. The objective of this work was to evaluate the cytotoxicity of dicamba and lambda-cyhalothrin on the neuroblastoma SH-SY5Y cell line. The SH-SY5Y cells were exposed to the were 8.1, 81, 810, 8100 and 81000 nM and of Dicamba and 0.011, 0.11, 1.11.11.11, 111.14 nM of Lambda-cyhalothrin for 24 and 72 h. Cytotoxicity assessment was performed by the PrestoBlue™ method. The cells were seeded in 96-well plates, at a concentration of 2.5×10^4 . After exposure to the pesticides, the culture medium containing the contaminant was removed, and 90 μ L of complete medium and 10 μ L of PrestoBlue were added to each well. The cells were incubated at 37 ° C and, after 90 minutes, a spectrophotometer reading was performed at absorbances of 570 and 600 nm. The PrestoBlue™ method is used to verify cell viability, the reagent used is a resazurin base, after being in contact with viable cells will be reduced in resorufin, by the mitochondria. After evaluating the results obtained, it was verified that there was no cytotoxicity for any of the pesticides to SH-SY5Y cell line. Cytotoxicity have been observed by the lambda cyhalothrin in other cell lines. No data were found in the literature on the occurrence of cytotoxicity related to the dicamba. There was no occurrence of cytotoxicity in the performance of this study, so new experiments must be carried out to confirm the data obtained.