

P25. DOES FIPRONIL HAS THE NEUROTOXIC EFFECT ON NEUROBLASTOMA SH-SY5Y CELL LINE?

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In our country, fipronil, an insecticide that is used to spraying mainly cereals, maize and sunflower, causes negative effects on nervous system. It is known that the insecticide causes changes in the number and morphology of nerve cell.

In the present study, it was investigated the cytotoxic effect of fipronil in SH-SY5Y neuroblastoma cell line. Accordingly, SH-SY5Y cells exposed to 125, 250 and 500 µM fipronil doses and incubated for 24 and 48 hours. The cytotoxicity of the fipronil was analysed by MTT ((3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) test, as an in vitro cell growth inhibition assay and LDH (Lactate dehydrogenase) assay, to determine the cell membrane damage. Experiments have been triplicated and the cell cytotoxicity was defined as% in all group.

The MTT assay results revealed that fipronil significantly reduced cell viability in a concentration dependent manner. Cell death increased apparently time dependent manner in all doses group, especially 500 µM fipronil.

Release of LDH was detected in the culture medium. The LDH assay results revealed that fipronil significantly increased cytotoxicity in a concentration dependent manner. Cell viability was significantly diminished in all doses group, especially 500 µM fipronil.

We observed that the results of both tests are consistent with each other. According to the results; toxicity increases depending on time and dose manner. After this preliminary study, further detailed investigation will be performed.

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