

P33. INVESTIGATION OF TOXICITY OF HYDROXYUREA ON *DROSOPHILA MELANOGASTER* (*mwhxflr³*)

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Hydroxyurea, a cytostatic compound specific to the S phase of cell division, prevents deoxyribonucleotide synthesis by inhibiting ribonucleotide reductase. In this study, hydroxyurea toxicity, a retinoid and active ingredient of antineoplastics, was investigated on *Drosophila melanogaster* (*mwhxflr³*).

72-h trans-heterozygous larvae which are the *mwhxflr³* *Drosophila* cross were chronically fed with 4 and 8 µg/mL concentrations of the hydroxyurea. Distilled water was used for the control group. During the experiments, 3 g medium was wet with a 10 mL exposure solution, and 100 larvae in each group were embedded in the medium. Adult flies were counted after metamorphosis. Statistically significant differences in percent survival between the experimental and control groups were compared by using Chi-squared Test. The percentage of survival was 53 in 4 µg/mL hydroxyurea, 58% in 8 µg/mL hydroxyurea. In the distilled water control group, the percentage of survival was 97. There was a statistically significant difference in favor of the control group between the survival percentage of 4 and 8 µg/mL hydroxyurea exposure groups and that of the control group ($p < 0.001$).

The results are significant for reporting hydroxyurea to be toxic to *Drosophila melanogaster* larvae. Investigation of hydroxyurea toxicity using different experimental animals will be significant in terms of risk assessment.

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