

**P-19 The Study Genotoxicity of Molinate ( II )**  
**: Mouse Lymphoma tk+/- Gene Assay(MLA) with L5178Y**  
**Mouse Lymphoma Cells**

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The mutagenicity of molinate, a herbicide, was tested in the mouse lymphoma L5178Y tk+/- assay(MLA) using the microtiter cloning technique. It was performed both in the presence and absence of metabolic activation system. The results were analyzed using the MUTANT<sup>®</sup> V2.34 (Hazelton) statistical analysis program as recommended by the UKEMS guidelines. From the cytotoxicity range-finding test, the range of concentration to be applied was determined from 50 to 200  $\mu\text{g}/\text{ml}$  ( $> 20\%$  relative survival, RS) both in the presence and absence of S9 mixture.

In the absence of S9 mixture, mutation frequencies(MF) in the range of 50 to 200  $\mu\text{g}/\text{ml}$  of molinate were calculated  $1.4 \sim 1.9 \times 10^{-4}$ . In this condition, MFs of spontaneous mutation and of 10  $\mu\text{g}/\text{ml}$  methylmethansulfonate(MMS) as a positive control were  $1.7 \times 10^{-4}$  and  $14.9 \times 10^{-4}$  respectively.

In the presence of metabolic activation, MFs at the same range were  $3.2 \sim 3.4 \times 10^{-4}$ . MFs of negative control and positive control (3  $\mu\text{g}/\text{ml}$  cyclophosphamide(CP)) were  $1.6 \times 10^{-4}$  and  $6.4 \times 10^{-4}$  respectively.

These results shows that molinate does not induce TFT-resistant mutation in the range of concentrations tested in thd absence of S9. But in the presence of molinate induced TFT-resistant mutants in L5178Y tk+/- mouse lymphoma cells with 5% significant level of MFs.

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