

of the study was to research the potential mutagenic effects of generic pesticides glyphosate 95.2% (Gly1), glyphosate 95.6% (Gly2), glyphosate 95.0% (Gly3) in screening fluctuation Ames assay using *Salmonella typhimurium* strains TA98 and TA100 with and without metabolic activation, preincubation in the suspension was 90 min. Selection of concentrations were based on preliminary experiment in pre-screening assay which was performed before the main test. In the absence of cytotoxicity and precipitation in preliminary experiment the following concentrations (5; 1; 0.2; 0.04; 0.008; 0.0016 mg/ml ) were defined. As a result: obtained experimental data of positive and negative controls were ranged with own historical control. Validated XL template was used to calculate the results. Our results showed statistically significant absence of the mutagenic effect of generic pesticides glyphosates Gly1, Gly2, Gly3 in fluctuation Ames assay.

**Keywords:** *fluctuation Ames assay, glyphosate, generic pesticide, genotoxicity, GLP*

#### ACTUALITY OF HIGH QUALITY HISTOLOGICAL MAINTENANCE IN TOXICOLOGY LABORATORIES IN GLP

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At L.I. Medved's Research Center of Preventive Toxicology, Food and Chemical Safety, Ministry of Health, Ukraine, over recent years on the base of morphological laboratory is adjusted a standard of GLP system. It has become urgent to unify experiments, to plan their clearly, proper conduct and thereby achieve the certainty of the results.

The modern morphology has a complex of techniques, allowing to decide the issues of changes that occur at the tissue level. First of all, it are histological methods, also histochemistry, histoimmunology, morphometry etc. For efficient and safe operation, the routine and histological research practice requires the use of the latest technology, required high technical equipment of laboratory with modern equipment.

In the laboratory of the Center uses the automated equipment for processing of biological tissues, whose main advantages are: high quality of processing, saving time due to one-stage operation with many preparation, storage programs of procedures in the device thereby increasing the speed and effec-

tiveness of studies, decreasing sharply the particle of defective and damaged samples, which increases the reliability of the results of microscopy.

In the laboratory implemented the system of storage samples and documentation. The special rooms are equipped for archive with limited and controlled access. Due to the integration at any time you can control and transfer the information to the laboratory information management system, and thereby ensure the total traceability and recovery of all phases of the study, which is one of the main tasks of the GLP system.

#### MUTAGENICITY STUDIES OF HERBICIDE NICOSULFURON IN THE MICE BONE MARROW MICRONUCLEUS ASSAY

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Our laboratory of mutagenesis is conducting research on the genotoxicity of chemicals in the battery test systems. Studies carried out in accordance with the requirements of GLP. One of the methods used by the laboratory is mammalian *in vivo* erythrocyte micronucleus test (OECD 474).

We explored 3 samples of active ingredients of herbicide nicosulfuron from different manufactures. These samples were generic and had various percentages. Mutagenicity studies examined on CD<sub>1</sub> healthy young adult mice, males, which weight was 18-20 g and acclimated to the laboratory conditions for at least five days.

The test substance was administered as an aqueous emulsion, once orally. Every samples studied in three doses 2500, 250, 25 mg kg<sup>-1</sup> and accompanied with positive and negative controls. The time of exposure was 24 hours.

As a result of studies of all of testing samples of nicosulfuron mutagenic effect was not found. However, in high concentrations of test chemicals, it was noted increase of frequency of micronucleus in polychromatic erythrocytes was not significant in comparison to the negative control. The relationship between the frequency of micronuclei, the percentage and impurities is not observed.