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Review of Liver Slides from National Cancer Institute
Picolram Experiment

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The bioassay of picloram for possible carcinogenicity was conducted
for the Division of Cancer Cause and Prevention, National Cancer
Institute. The experiment was carried out by Gulf South Research
Institute under a subcontract to TRACOR-JITCO, INC. (CAS No.
1918-02-1-NCI-CG-T.R.-23).

INTRODUCTION

The EPA, Hazard Evaluation Division, Toxicology Branch, requested
I review liver slides from the Picloram experiment to justify the
pathologic diagnoses of NCI primarily in relation to proliferative
changes. The slides were available at NCI's depository in Rockville,
Maryland.

In this experiment, rats (males and females) and mice (males and
females) were used. The animals were divided into three groups.
The matching control groups had ten; the low-dose groups, 50; and the
high-dose groups, 50 animals per group, and per sex. All selected
liver slides were present; and the H & E sections were of satisfactory
quality.

METHODS

Control slides from all animals (rats and mice) of both sexes were
viewed. From the test groups, all animals in high-dose groups (rats)
of both sexes and all high dose animals (mice) in the female group were
examined. After a blind evaluation, the diagnoses were tabulated
and the results compared to NCI's findings.

RESULTS

The proliferative changes were evaluated in two categories:
neoplastic nodules and hepatocellular carcinomas. In both categories
there were no significant differences between our diagnoses and NCI's
diagnoses.

The final tabulation of the results in the control and high-dose
groups is shown on Tables 1 and 2.
Table 1.- Histopathology of Livers, Picloram Rat Study

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Neoplastic Nodule</td>
<td>Carcinoma</td>
</tr>
<tr>
<td>Dose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>0/10</td>
<td>0/10</td>
</tr>
<tr>
<td>Matched</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>High</td>
<td>0/48</td>
<td>0/48</td>
</tr>
<tr>
<td>Dose</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 2.- Histopathology of Livers, Picloram Mouse Study

<table>
<thead>
<tr>
<th></th>
<th>Females</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Neoplastic Nodule</td>
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<tr>
<td>Dose</td>
<td></td>
</tr>
<tr>
<td>Control</td>
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<tr>
<td>Matched</td>
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<tr>
<td>High</td>
<td>0/50</td>
</tr>
<tr>
<td>Dose</td>
<td>0%</td>
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</table>

CONCLUSION

Based on our findings, we agree with NCI’s conclusion: “It is concluded that under the conditions of the bioassay, the findings are suggestive of the ability of the compound to induce benign tumors in the livers of female Osborne-Mendel rats.”