Hepatoblastoma in the Mouse

David Malarkey, DVM, PhD
National Institute of Environmental Health Sciences

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Hepatoblastoma in the mouse

- primitive, poorly differentiated variant of an hepatocellular neoplasm
- can arise from adenoma or carcinoma
- relatively late onset
- males >>> females
- metastatic rate of ~ 25-50%
- B6C3F1, D2B6F1, B6D2F1, CBAxC57BL/6J, C3H, CF1, BDF1, Swiss Webster
Hepatoblastoma
Hepatoblastoma
Hepatoblastoma
Hepatoblastoma in an adenoma
Hepatoblastoma in a carcinoma
### Incidence of hepatoblastomas in B6C3F1 mice in NTP studies

<table>
<thead>
<tr>
<th>Gender</th>
<th>Incidence (Mean; Range)</th>
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</thead>
<tbody>
<tr>
<td>Males</td>
<td>91 / 2954 (3.1%; 0-34%)</td>
</tr>
<tr>
<td>Females</td>
<td>9 / 3046 (0.3%; 0-2%)</td>
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*Grace Kissling, NTP*
Hepatoblastoma – Molecular studies

• Molecular studies aimed at understanding the pathogenesis of hepatoblastoma and the relationship between hepatoblastoma and hepatocellular carcinoma (HCC)

• Phenotypic characterization of hepatoblastomas in mice

• Global gene expression analysis
  – Comparing hepatoblastoma, HCC, and non-tumor liver in same animal
  – Identification of differentially altered molecular pathways

• Mutation analysis
  – Common mutational spectrum – common origin of hepatoblastoma/HCC
  – Differing mutational spectrum – supports differing origin/convergent pathogenesis