Acute liver failure (ALF) carries a high mortality of approximately 40%, which is caused by viral infections (hepatitis A, B and E), drug allergy or autoimmune hepatitis. ALF exhibits symptoms of severe injury such as destruction of hepatocytes or decrease in liver function due to massive necrosis and inflammation.

D-gal/LPS-induced acute liver failure model is made by combination of D-galactosamine and lipopolysaccharide for acute liver injury with more rapid and efficient disease induction. D-gal/LPS induces a robust inflammation and apoptosis via immune response.

SMC, a Tokyo-based biotech company known as the leading nonclinical CRO for nonalcoholic steatohepatitis (NASH), also provides pharmacology study service of D-gal/LPS model in mice. Our expertise in inflammation/fibrosis is now experienced in liver failure R&D.

D-gal/LPS-induced acute liver failure model

**Animal:**
- Male C57BL/6J (6 week-old)

**Induction of ALF:**
- Injection of D-gal/LPS

**Major endpoint:**
- Histology on liver tissue (HE staining)

**Additional endpoints:**
- Blood biochemistry (ALT, AST,…)
- Semi-quantitative RT-PCR (TNF-α, IL-6,…)
- Immunohistochemical analyses for molecular markers
- Cytokines and chemokines in blood and livers by ELISA (TNF-α, IL-6,…)

Evaluation of liver injury

<table>
<thead>
<tr>
<th>Serum ALT</th>
<th>Serum AST</th>
<th>HE-stained liver sections</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
<td><img src="image3.png" alt="Liver Sections" /></td>
</tr>
</tbody>
</table>

Acute liver injury is induced in the D-gal/LPS mice model 6 hours after injection of D-gal/LPS
- Increased serum ALT and AST levels at 6 hours
- Necrotic foci and inflammatory cell infiltration observed in the HE-stained liver sections at 6 hours (Arrows represent lesion area)

For more information, please contact us below.
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