CRO services for Acute Liver Failure

Acute liver failure (ALF) carries a high mortality of approximately 40%, which is caused by vial 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.

Carbon Tetrachloride (CCl_4)-induced acute liver failure model is known having hepatotoxic affects for a long time. CCl_4 is widely used for research on mechanisms of acute liver injury (dysbolism, inflammation, necrosis and so on) and liver regeneration and for developing new drugs as a pathological condition model.

SMC, a Tokyo-based biotech company known as the leading nonclinical CRO for nonalcoholic steatohepatitis (NASH), also provides pharmacology study service of acute CCl_4 model in mice. Our expertise in inflammation/fibrosis is now experienced in liver failure R&D.

CCl_4-induced acute liver failure model

Animal:
- Female C57BL/6J (7 week-old)

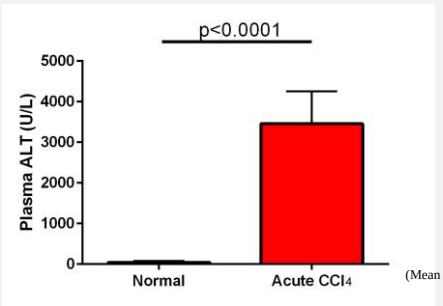
Induction of ALF:
- Injection of CCl_4

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

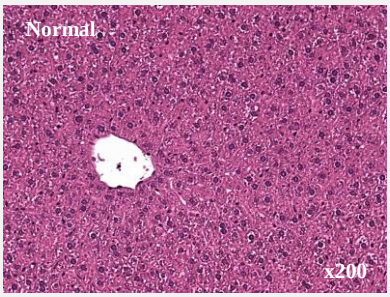
Additional endpoints:
- Blood biochemistry (ALT, AST,…)
- Semi-quantitative RT-PCR (TNF-α, IL-6,…)
- Immunohistochemical analyses for molecular markers
- Cytokines and chemokines in blood and livers by ELISA (TNF-α, IL-6,…)

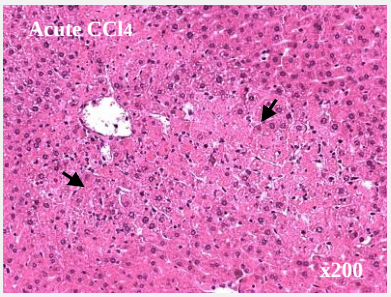
Evaluation of liver injury

Plasma ALT



HE-stained liver sections





Acute liver injury is induced in the CCl_4 mice model 24 hours after injection of CCl_4.
- Increased ALT level
- Necrotic foci and inflammatory cell infiltration observed in the HE-stained liver sections. (Arrows represent lesion area)

SMC Laboratories, Inc.

For more information, please contact us below.
Phone: +81-3-6715-9101 / E-mail: info@smclab.co.jp / Website: www.smclab.co.jp