

# CRO services for Acute Liver Failure

**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:

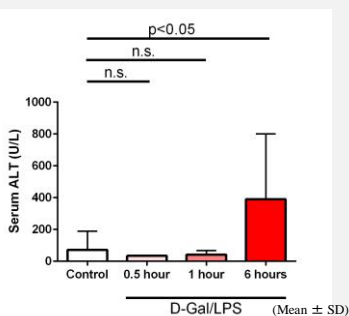
- Histology on liver tissue (HE staining)

### Additional endpoints:

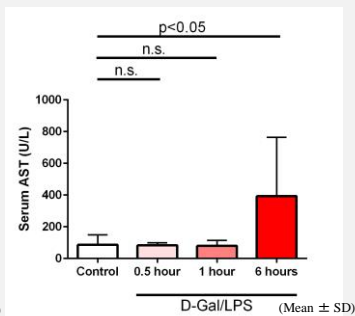
- Blood biochemistry (ALT, AST,...)
- Semi-quantitative RT-PCR (TNF- $\alpha$ , IL-6,...)
- Immunohistochemical analyses for molecular markers
- Cytokines and chemokines in blood and livers by ELISA (TNF- $\alpha$ , IL-6,...)

## Evaluation of liver injury

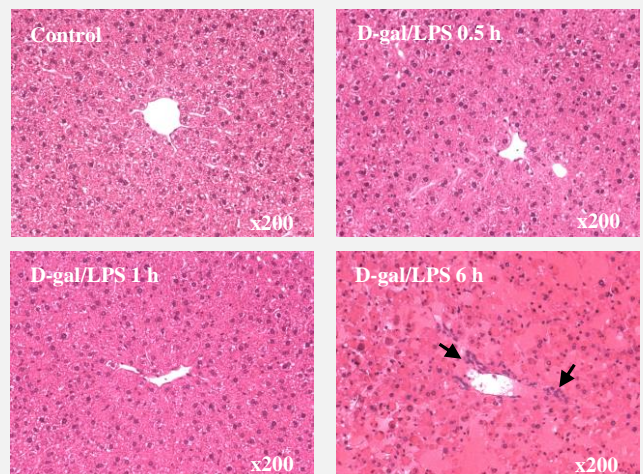
### Serum ALT



### Serum AST



### HE-stained liver sections



### 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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