



Preclinical Models of Cirrhosis

Cirrhosis

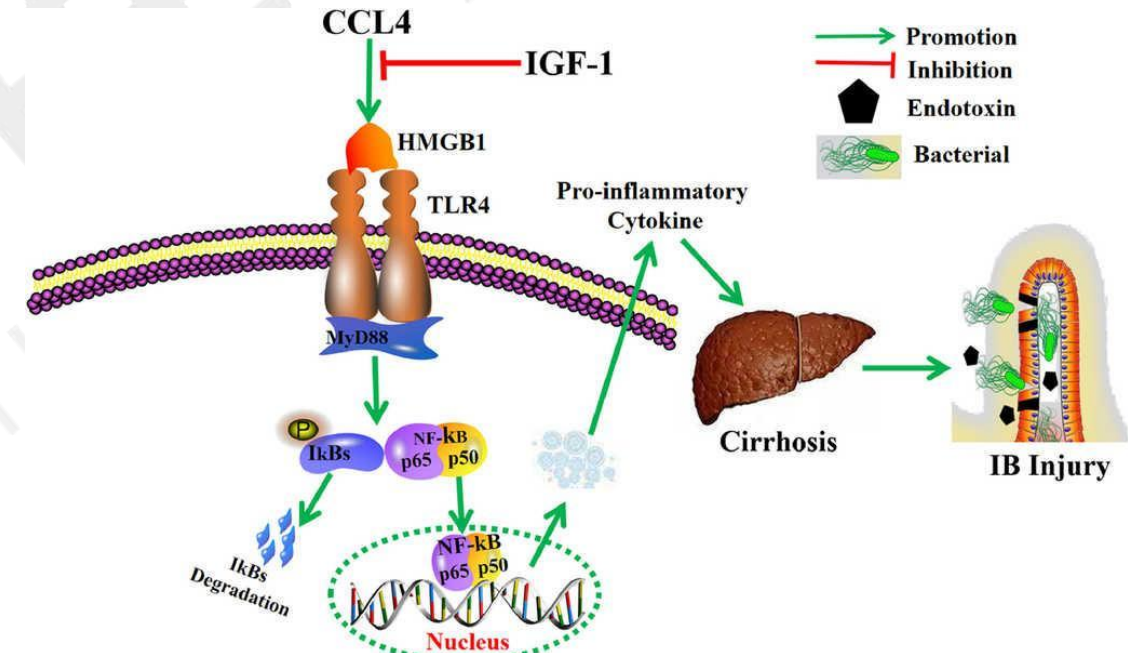
Symptoms and Causes

People with early-stage cirrhosis of the liver usually don't have symptoms. Often, cirrhosis is first found through a routine blood test or checkup. To help confirm a diagnosis, a combination of laboratory and imaging tests is usually done.

Cirrhosis is severe scarring of the liver. This serious condition can be caused by many forms of liver diseases and conditions, such as hepatitis or chronic alcoholism. Each time liver is injured — whether by excessive alcohol consumption or another cause, such as infection — it tries to repair itself. In the process, scar tissue forms. As cirrhosis gets worse, more and more scar tissue forms, making it difficult for the liver to do its job. Advanced cirrhosis is life-threatening.

Models in place:

■ CCl_4 Induced Wistar Cirrhosis Model



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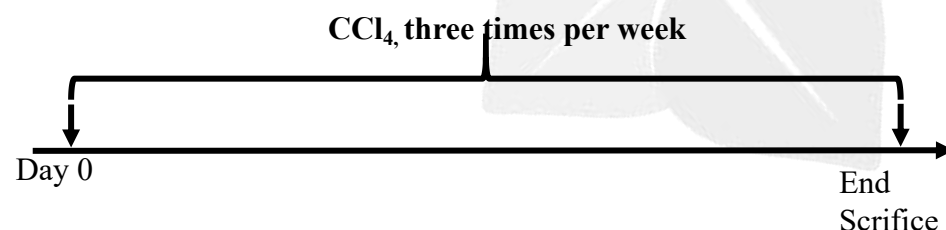
CCl₄ Induced Cirrhosis Rat Model

■ Mechanism

In animals, various causes of cirrhosis have been studied, but the main hepatic cirrhosis model is based on repeated application of carbon tetrachloride (CCl₄) over a period of several weeks. CCl₄ is a hepatotoxin that causes lobular central hepatic necrosis, proinflammatory and profibrotic cytokine release, and the metabolic activation in the liver, consequently, results in liver fibrosis and even cirrhosis after long-term exposure.

The administration of CCl₄ is known to induce toxicity in the liver by producing highly reactive metabolites, resulting in severe damage to liver cells and subsequently developing into fibrosis.

■ CCl₄ Induced Cirrhosis Rat Model



Animal	Wistar
Evaluation	Clinical: Body weight
	Cytokine: Colla1, IL-6, IL-10
	Pathology: NA

CCl₄ Induced Cirrhosis Rat Model

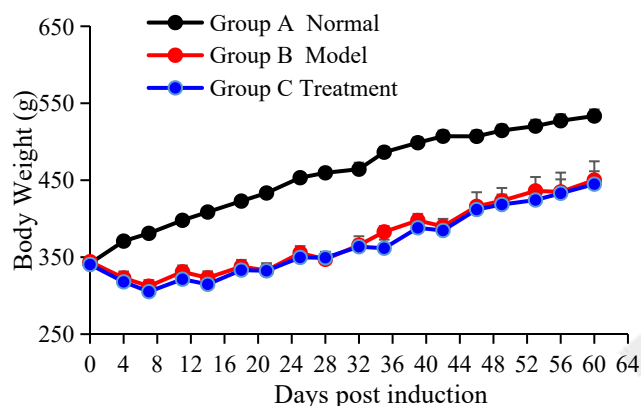


Figure 1 Body weight change

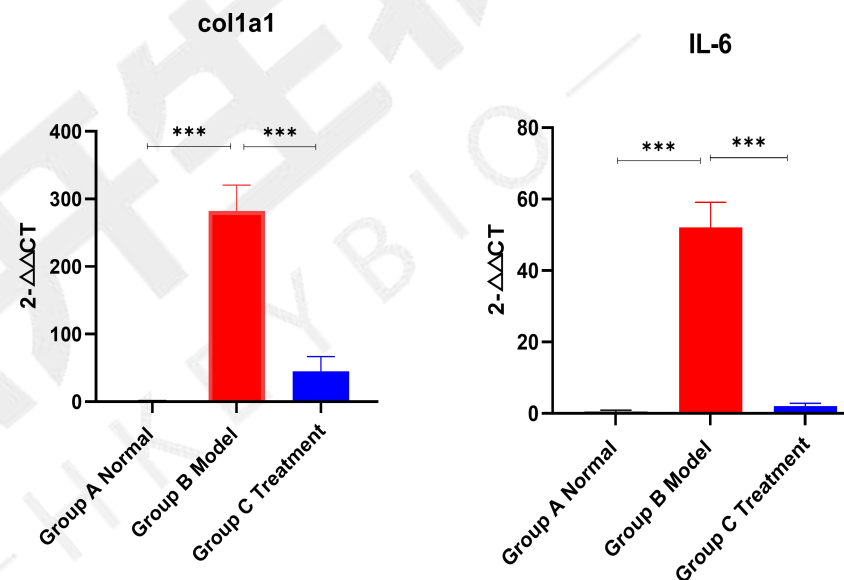


Figure 2 Cytokine detection by q-PCR

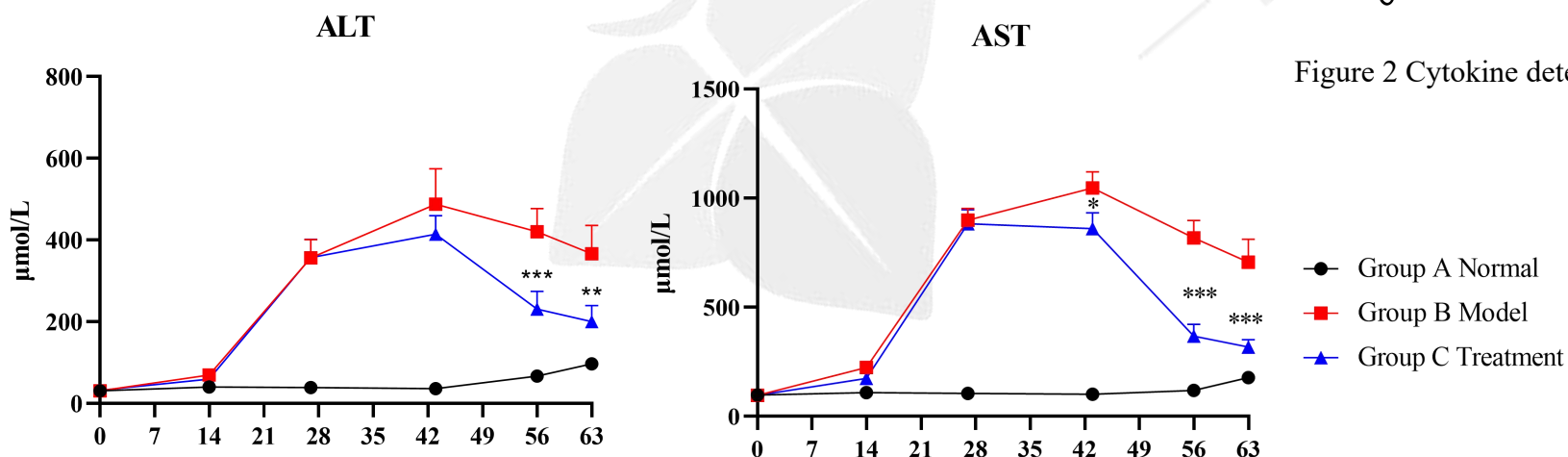


Figure 3 Blood biochemical

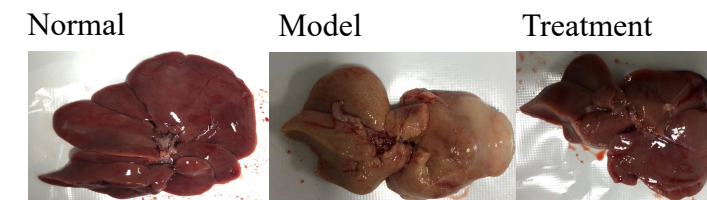


Figure 4 Liver



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