

Cell Research press release

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[An improved mouse model to study Hepatitis C](#)

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An immune-competent mouse model to study Hepatitis C is reported in *Cell Research* this week. It is hoped that this model may open a new venue to study the mechanisms of chronic hepatitis C and develop better treatments.

Hepatitis C is estimated to affect more than 185 million individuals in the world and chronic infection of HCV can cause liver cirrhosis and liver cancer. Our understanding of how the hepatitis C virus (HCV) persists and causes liver damage is hampered by HCV's narrow host range, mostly restricted to humans and chimpanzees. The development of an alternative animal model with persistent HCV infection could be useful for the evaluation of potential vaccines and drugs. It has previously been difficult to create a mouse model for HCV as mice are resistant to HCV infection. A recent *Nature* paper demonstrated that HCV infection could be sustained in mice with compromised immune systems, but Hong Tanga, Xinwen Chen and their colleagues have achieved the same result in mice with normal immune systems, potentially fulfilling need for a robust immunocompetent small animal model to investigate HCV pathogenesis and immune control. The researchers used a different line of immune-competent mouse to develop a humanized mouse model for HCV infection by introducing human factors required for HCV uptake into mouse liver cells. The entire viral life cycle and the pathologic cycle is recorded in this new line of mouse model, and the infected mice respond to Telaprevir, the direct anti-viral drug for treatment of HCV in humans.

The authors suggest that this new mouse model could provide a useful tool for studying HCV infection and assisting the development of new therapeutics and vaccines.

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