

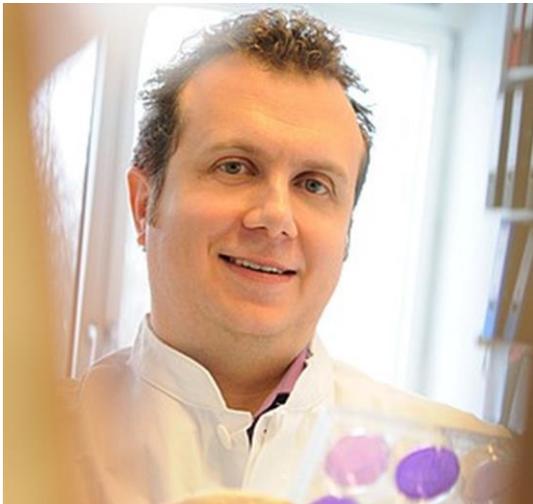
## Press Release

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### **GENE INHIBITION HELPS TO IMPROVE LIVER REGENERATION RESEARCHERS OPTIMISE PROCESS OF HEPATIC SELF-RENEWAL IN MICE**

**By blocking a certain gene, the liver's capacity for self-renewal can be increased considerably. Scientists at Tübingen University Hospital, the Hannover Medical School (MHH), and the Helmholtz Centre for Infection Research (HZI) in Braunschweig have recently shown this in mice. The results of their work have now been published in the renowned scientific journal *Cell*; the scientists are anticipating that these will provide invaluable impulses for drug development.**



HZI / S. Gramann  
Prof. Lars Zender, until 2012 head of the junior research group "Chronic Infections and Cancer" at HZI

In many cases, chronic or acute damage to the liver, as a direct result of hepatitis infection or poisoning, can lead to the loss of the organ's capacity to self-renew. For those affected, this can be life-threatening: "In such instances, patients cannot avoid organ transplantation," explains Professor Lars Zender, liver specialist at Tübingen University Hospital, who was conducting research at the HZI and Hannover Medical School until 2012. "Each year, over a million people die from chronic or acute liver failure and many patients do not survive the often extensive waiting times for a transplant organ."

Zender and his colleagues at the participating research sites have identified a new potential therapeutic target: a protein kinase called MKK4. Inhibition of the murine MKK4 gene increases the liver's potential for regeneration considerably. The result: noticeable improvements in the animals' survival rate following acute or chronic liver failure. To a large extent, the different technologies that were used by the researchers to obtain their results were originally developed at the HZI and Hannover Medical School.

**Original publication**

Torsten Wuestefeld, Marina Pesic, Ramona Rudalska, Daniel Dauch, Thomas Longerich, Tae-Won Kang, Tetyana Yevsa, Florian Heinzmann, Lisa Hoenicke, Anja Hohmeyer, Anna Potapova, Ina Rittelmeier, Michael Jarek, Robert Geffers, Maren Scharfe, Frank Klawonn, Peter Schirmacher, Nisar P. Malek, Michael Ott, Alfred Nordheim, Arndt Vogel, Michael P. Manns, and Lars Zender

A Direct In Vivo RNAi Screen Identifies MKK4 as a Key Regulator of Liver Regeneration

Cell, 2013

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[Read more in the press release of the University Hospital Tübingen \(in German\).](#)

**The Helmholtz Centre for Infection Research:**

At the Helmholtz Centre for Infection Research (HZI) in Braunschweig, scientists are studying microbial virulence factors, host-pathogen interactions and immunity. The goal is to develop strategies for the diagnosis, prevention and therapy of human infectious diseases.

[www.helmholtz-hzi.de/en](http://www.helmholtz-hzi.de/en)