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Targeted cell ablation

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Jonathan B Weitzman

Email: jonathanweitzman@hotmail.com

Deregulated apoptosis is associated with a range of acute liver injury (ALI) pathologies that can lead to fulminant hepatic failure. The lack of good animal models of ALI has hindered the development of therapeutic strategies. In an Advanced Online Publication in *Nature Biotechnology*, Vincent Mallet and colleagues describe the creation of a model for inducible hepatic injury using a targeted 'toxigene' approach (*Nature Biotechnology*, doi:10.1038/nbt762, November 18, 2002). Mallet *et al.* generated transgenic mice that express a chimeric suicide protein containing human caspase-3 fused to an artificial dimerization domain. Injection of a chemical inducer of dimerization (CID) induced caspase activity and caused specific ablation of the hepatocytes expressing the transgene. The induced apoptosis led to liver damage and regeneration. This system could be easily transposed to other tissues to generate animal models of diseases related to apoptosis.

References

1. Dysregulation of apoptosis as a mechanism of liver disease: an overview.
2. *Nature Biotechnology*, [<http://www.nature.com/naturebiotechnology>]