

## TOPIC HIGHLIGHT

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# Alcoholic liver injury: Pathological features and models

In this 9-topic review series, we will provide an insight into the pathogenesis of alcohol-mediated liver damage. The aspects addressed in the reviews cover the most important pathological features induced by ethanol/or ethanol metabolism: dysregulation of cell cycle progression, immune response, impaired protein hydrolysis by proteasome and steatosis and apoptosis induction. The mechanisms of ethanol-elicited liver injury are related to compromised transmethylation, involvement of ethanol in iron metabolism and emerging roles of mitochondria and free radicals in establishment and progression of liver damage. These events are observed not only in hepatocytes, but also in some other liver cells, including the sinusoidal endothelial cells and immune cells. At the molecular level, these pathological symptoms are progressing due to the altered signal transduction processes, which further impair cell functions. To study the alcohol-induced cell damage, certain adequate cell models, including polarized hepatic cells, are developed. The following reviews written by well-established scientists with a long-term expertise in the field of alcohol-induced liver injury.

- 4925 Role of alcohol in the regulation of iron metabolism  
*Harrison-Findik DD*
- 4931 Implication of altered proteasome function in alcoholic liver injury  
*Osna NA, Donohue TM*
- 4938 Immunological response in alcoholic liver disease  
*Duryee MJ, Klassen LW, Thiele GM*
- 4947 Role of transmethylation reactions in alcoholic liver disease  
*Kharbanda KK*
- 4955 Effects of ethanol on hepatic cellular replication and cell cycle progression  
*Clemens DL*
- 4960 Effect of ethanol on pro-apoptotic mechanisms in polarized hepatic cells  
*McVicker BL, Tuma DJ, Casey CA*
- 4967 Novel interactions of mitochondria and reactive oxygen/nitrogen species in alcohol mediated liver disease  
*Mantena SK, King AL, Andringa KK, Landar A, Darley-Usmar V, Bailey SM*
- 4974 Alcohol-induced steatosis in liver cells  
*Donohue TM Jr*
- 4979 Signaling mechanisms in alcoholic liver injury: Role of transcription factors, kinases and heat shock proteins  
*Mandrekar P*