Targeting bile acid pathways offers hope for liver disease treatment

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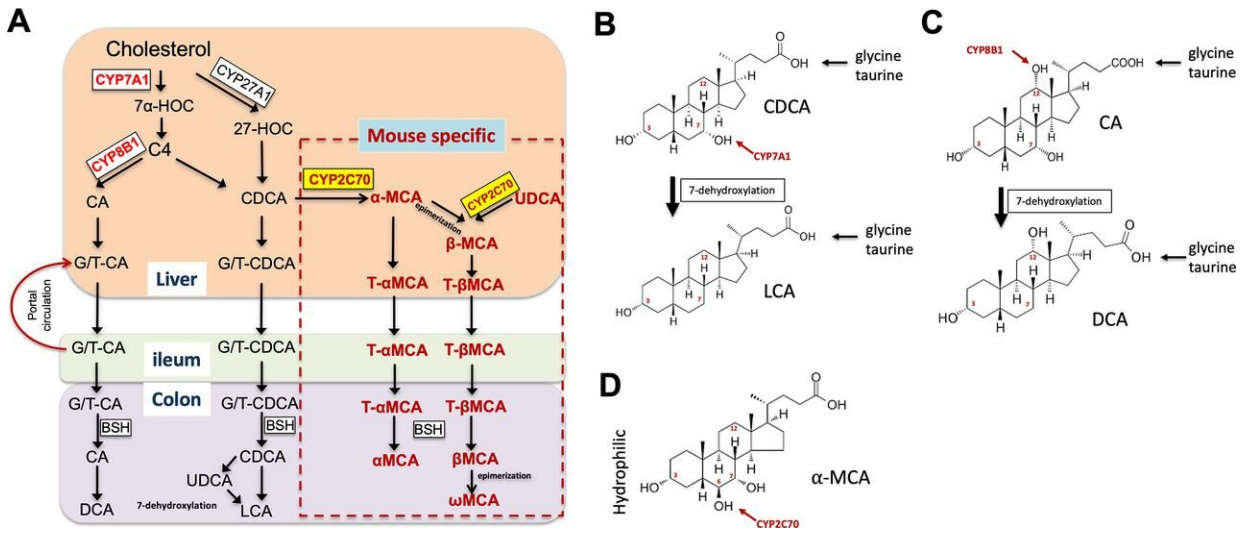


Species differences in bile acid synthesis. Credit: *eGastroenterology* (2024). DOI: 10.1136/egastro-2024-100074

Bile acids are essential molecules the liver produces that play a critical role in digestion. They help us absorb fat-soluble vitamins and cholesterol from our food. However, bile acids can become a double-edged sword. While they are necessary for proper digestion, high concentrations can also be toxic to the liver.

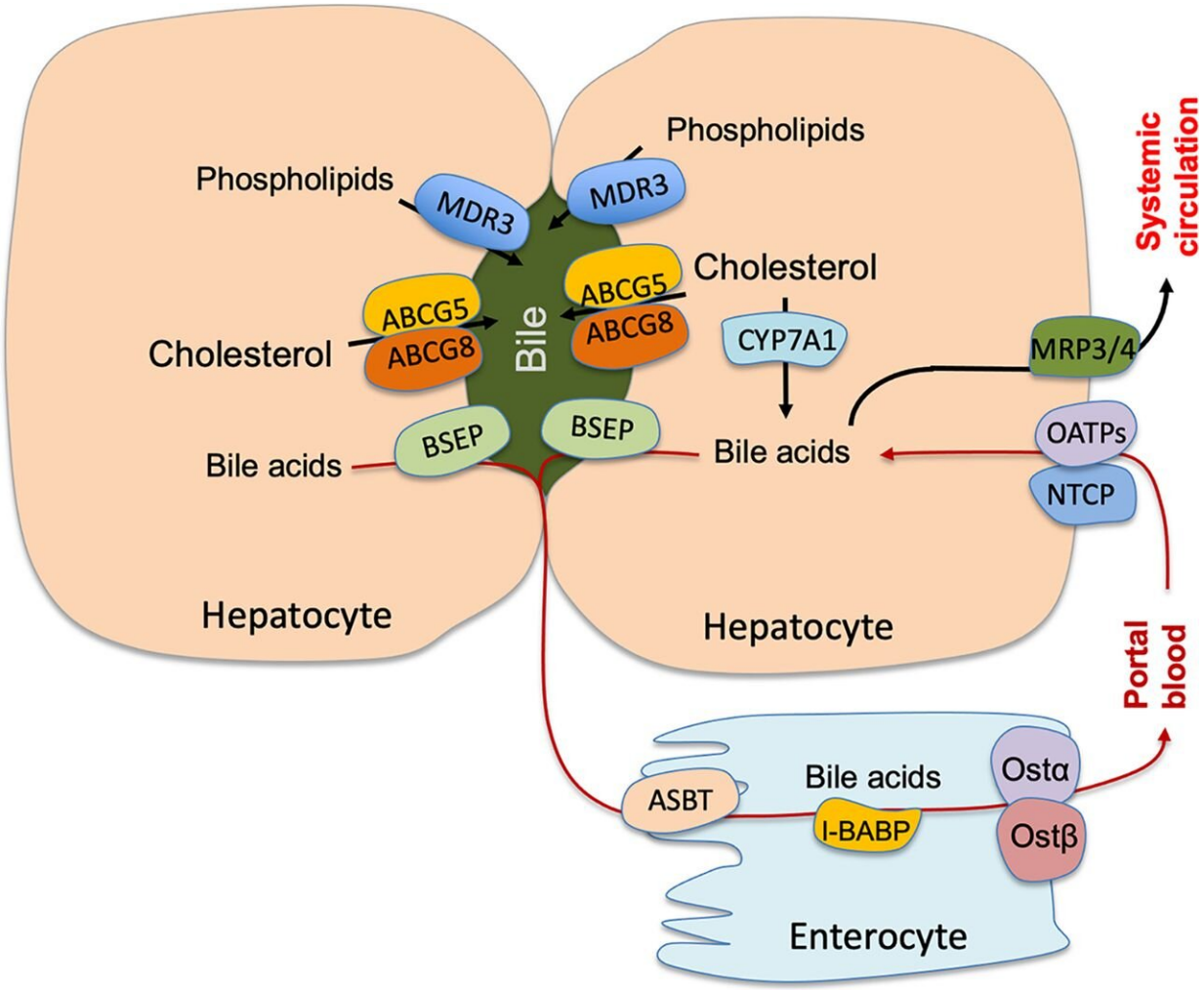
Recent research is shedding light on the complex relationship between bile acids and liver health. The new study is published in

eGastroenterology.

Scientists have identified new ways in which bile acids interact with cellular stress responses, impacting how the liver functions in diseases like cholestasis, fatty liver disease (MASLD), and alcoholic liver disease (ALD).

In cholestasis, bile flow becomes obstructed, leading to a buildup of bile acids in the liver. This can cause significant liver injury. Current treatments for cholestasis focus on reducing bile acid toxicity to protect the liver.

New evidence suggests that bile acid imbalances may also contribute to the development and progression of MASLD and ALD. Targeting bile acid signaling pathways shows promise as a potential treatment approach for these diseases. However, further research is needed to understand the underlying mechanisms.



Bile acid transport in the enterohepatic circulation. Credit: *eGastroenterology* (2024). DOI: 10.1136/egastro-2024-100074

Scientists are actively investigating how bile acids interact with cellular processes to maintain liver health. This ongoing research will pave the way for significant advancements in the field of liver disease.

By unraveling the intricate mechanisms of bile acid function, researchers hope to identify the specific role of bile acids in different liver diseases, develop new diagnostic tools based on bile acid levels, and create

targeted therapies that modulate bile acid signaling to promote better liver health.

Understanding the complex role of bile acids in the liver is crucial for developing new tools and treatments for a range of liver diseases.

More information: Li T, Hasan MN, Gu L. Bile acids regulation of cellular stress responses in liver physiology and diseases, *eGastroenterology* (2024). DOI: 10.1136/egastro-2024-100074. egastroenterology.bmj.com/cont … nt/2/2/e100074?rss=1

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