Protease-activated receptor 4: A key player in the progression of metabolic-induced steatohepatitis and tumor development

Info

PUBLIZIERT AM
2024-01-01

JOURNAL
Zeitschrift für Gastroenterologie

LINK
https://doi.org/10.1055/s-0043-1777567

Autoren

Julian Gilljam Stephanie D. Wolf Moritz Malms Mascha Simon Diran Herebian Andre Beckmann Tobias Hustedt Anke Fender Mihael Vucur Tom Lüdde Johannes G. Bode

Abstract

The prevalence of metabolically induced fatty liver disease as a risk factor for the development of liver fibrosis and cirrhosis as well as hepatocellular carcinoma (HCC) has increased steadily in recent years. The molecular processes that drive fatty liver disease towards development of inflammation and its progression towards fibrosis, cirrhosis and HCC development are poorly understood.

To examine the relevance of PAR4 in this context mice deficient for PAR4 and wt mice were fed high-calorie or standard diets for up to 50 weeks.

The data suggest that PAR4 is a critical factor for disease progression towards development of fibrosis and HCC. This coincides with significant changes in bile acid composition and the expression of MASLD-associated factors such as GPNMB and IL33 as well as the DAMP molecule HMBG1.

In conclusion these data suggest that PAR4 may be a suitable target for therapeutic intervention to prevent or delay progression of fatty liver disease.