Non-alcoholic fatty liver disease (NAFLD), a manifestation of metabolic syndrome, is the leading cause of chronic liver disease in the Western world; it is estimated that 20-30% of the general population has NAFLD. 20% will develop chronic hepatic inflammation (non-alcoholic steatohepatitis, NASH) leading to cirrhosis and liver carcinoma, yet the causes of progression from NAFLD to NASH are unknown. In vivo studies show that the modulation of intestinal microbiota, due to deficits in key components that regulate the microbial environment leads to the overrepresentation of colitogenic strains ultimately causing inflammation. The application of this technology provides the platform for the development of therapeutics that prevents inflammation through inhibition of immune system modulators, such as cytokines, to mitigate the progression of these chronic and lifelong diseases.

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