Research paves the way for possible therapeutic targets for the treatment of liver fibrosis

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Research by the University of Valencia, CIBERehd and FISABIO offers an exhaustive analysis of the different published studies on autophagy, a

cellular process involved in liver fibrosis. The work addresses the different aspects of a scientific dichotomy in this field and paves the way for the search for possible therapeutic targets for the treatment and prevention of the disease. The article is the *Journal of Pathology*'s cover story.

Liver fibrosis occurs as a result of a persistent liver injury that ends in a pathological process. The parenchyma—tissue that provides functionality to the organ—is progressively replaced by fibrotic tissue; process mediated by the activation of so-called 'liver star cells."

Over the last few years many efforts have been devoted to understanding the molecular and cellular pathways that lead to the activation of star cells. Different studies have identified autophagy as a key process in the differentiation of these cells.

The work now published by researchers from the departments of Pharmacology and Physiology of the University of Valencia, the Liver and Digestive Diseases Networking Biomedical research Centre (CIBERehd) and the FISABIO Foundation brings to the table different research in two ways. On the one hand, there are studies that, during liver fibrosis, give autophagy a profibrotic role that allows cells to obtain the energy needed for their differentiation. On the other hand, there are studies that show that excess autophagy has an antifibrotic action that can even cause the death of star cells.

Limiting this dichotomous study framework, focused on the different effects that autophagy can have on star cell activation, has been the goal of this review work that provides clues about possible therapeutic targets for treatment and prevention of liver fibrosis.

More information: Federico Lucantoni et al, Understanding the implication of autophagy in the activation of hepatic stellate cells in liver

fibrosis: are we there yet?, *The Journal of Pathology* (2021). DOI: 10.1002/path.5678