pISSN 2287-2728
eISSN 2287-285X

CLINICAL and MOLECULAR HEPATOLOGY

https://doi.org/10.3350/cmh.2024.0210
Clinical and Molecular Hepatology 2024;30:297-298

Reply to Correspondence

Correspondence on Letter regarding "Both liver parenchymal and non-parenchymal cells express JCAD proteins under various circumstances"

Byoung Kuk Jang

Department of Internal Medicine, Keimyung University School of Medicine, Daegu, Korea

Keywords: Primary biliary cholangitis; JCAD; Bile duct epithelial cells; Hepatocyte

Dear Editor,

I am grateful to Xie and his colleagues for providing additional new results to my editorial comments. The authors showed that junctional protein associated with coronary artery disease (JCAD) and YAP were positive in CK-19-positive cells known as bile duct epithelial cells (BECs) in newly formed bile ducts through immunohistochemical staining in liver tissue of primary biliary cholangitis patients.[1] This result suggests that high expression of JCAD in reactive bile duct epithelial cells may be involved in the proliferative response of BECs. Additionally, although the authors did not show the results, they found co-localization of F-actin and JCAD in the bile canaliculi of the regenerative mouse liver, suggesting that JCAD may function as a binding protein important in forming tight junctions between hepatocytes. However, it is difficult to accurately determine its function simply by the level of expression in the tissue, so additional research will be needed to determine the role of JCAD expression in BECs in the future. The role of JCAD expression in hepatocytes was well demonstrated in a recently published paper by the authors. In a partial hepatectomy mouse model, JCAD deficiency was shown to cause delayed liver regeneration through the Hippo-Yap signaling pathway.[2] Taken together, these results suggest that JCAD is expressed in various cells present in the liver and is involved in chronic injury and repair processes. However, on the one hand, increased expression of JCAD promotes the regeneration of hepatocytes and bile duct epithelial cells.[1,2] but also promotes the progression of nonalcoholic steatohepatitis to hepatocellular carcinoma and activates hepatic stellate cells in cholestatic liver disease.[3,4] However, since most diseases progress through an overlap of injury and repair, there are concerns that it may require more work to apply it directly for therapeutic purposes. Therefore, through further research on these issues in the future, we hope to accumulate knowledge about the mechanism and role of JCAD in various liver diseases and apply it to treatment.

Conflicts of Interest

The authors have no conflicts to disclose.

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Corresponding author : **Byoung Kuk Jang**
Department of Internal Medicine, Keimyung University School of Medicine, 1035 Dalgubeol-daero, Dalseo-gu, Daegu 42601, Korea
Tel: +82-53-258-7720, Fax: +82-53-258-4343, E-mail: jangha106@dsmc.or.kr
http://orcid.org/0000-0002-8950-0866

Editor: Won Kim, Seoul Metropolitan Boramae Hospital, Korea

Received : Mar. 28, 2024 / **Accepted :** Mar. 29, 2024

Abbreviations:

JCAD, junctional protein associated with coronary artery disease; YAP, Yes-associated protein; BECs, bile epithelial cells