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**Role of spleen tyrosine kinase in liver diseases**

Dhadhang Wahyu Kurniawan, Gert Storm, Jai Prakash, Ruchi Bansal

### Abstract

Spleen tyrosine kinase (SYK), a non-receptor tyrosine kinase, is expressed in most hematopoietic cells and non-hematopoietic cells and play a crucial role in both immune and non-immune biological responses. SYK mediate diverse cellular responses *via* an immune-receptor tyrosine-based activation motifs (ITAMs)-dependent signalling pathways, ITAMs-independent and ITAMs-semi-dependent signalling pathways. In liver, SYK expression has been observed in parenchymal (hepatocytes) and non-parenchymal cells (hepatic stellate cells and Kupffer cells) and found to be positively correlated with the disease severity. The implication of SYK pathway has been reported in different liver diseases including liver fibrosis, viral hepatitis, alcoholic liver disease, non-alcoholic steatohepatitis and hepatocellular carcinoma. Antagonism of SYK pathway using kinase inhibitors have shown to attenuate the progression of liver diseases thereby suggesting SYK as a highly promising therapeutic target. This review summarizes the current understanding of SYK and its therapeutic implication in liver diseases.

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**Author:** Stephen McAdoo, Frederick W.K. Tam **Publish Year:** 2018

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Spleen tyrosine kinase (Syk) is involved in the development of the adaptive immune system and has been recognized as being important in the function of additional cell types, including **platelets**, **phagocytes**, **fibroblasts**, and **osteoclasts**, and in the generation of the inflammasome.

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**Spleen tyrosine kinase** (SYK) plays a critical **role** in immune cell signaling pathways and has been reported as a novel biomarker for human hepatocellular carcinoma (HCC). We sought to investigate the mechanism by which SYK promotes **liver** fibrosis and to evaluate SYK as a therapeutic target for **liver** fibrosis.

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