cancers

Supplementary Materials: Serum Myostatin Predicts the Risk of Hepatocellular Carcinoma in Patients with Alcoholic Cirrhosis: A Multicenter Study

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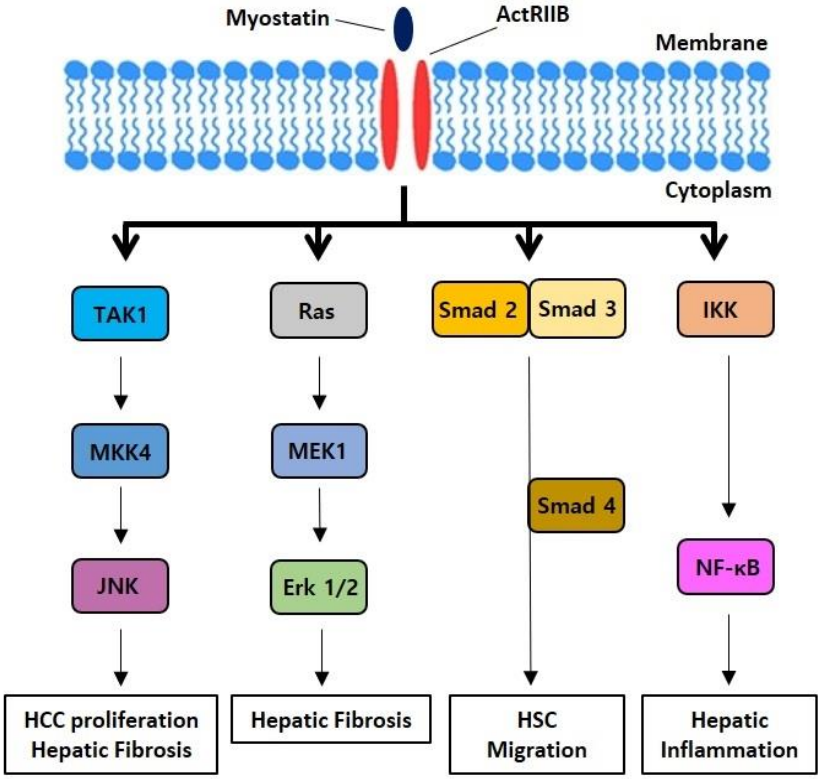

Figure S1. A proposed diagram of the possible mechanism of myostatin for HCC development, fibrosis, and hepatic inflammation. Myostatin can bind to ActRIIB in hepatic stellate cells that lead activation of JNK via signaling molecules consisting of MKK. Activated JNKs phosphorylate their substrates and mitochondrial proteins that induce various responses including HCC proliferation, fibrosis, and inflammation. Through activation of MEK, Erk 1/2 pathway has also been reported to participate in myostatin signal transduction and hepatic fibrogenesis. Activation of Smad complex results in migration of hepatic stellate cells, while IKK activates NF-κB that has been reported to increases expression of inflammation-related genes. Abbreviations: ActRIIB, type-2 activin receptor; HCC, hepatocellular carcinoma; HSC, hepatic stellate cell; IKK, IκB kinase; JNK, c-Jun-N-terminal kinase; MAP; mitogen-activated protein; MKK, mitogen-activated protein kinase kinase; NF-κB, nuclear factor-κB; TAK1, transforming growth factor β–activated kinase 1.