

New suppressor of common liver cancer

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Tumor suppressor genes make proteins that help control cell growth. Mutations in these genes that generate nonfunctional proteins can contribute to tumor development and progression. One of the most well-known tumor suppressor genes is BRACA1, mutations in which are linked to breast cancer. Ze-Guang Han and colleagues, at the Chinese National Human Genome Center at Shanghai, People's Republic of China, have now identified SCARA5 as a candidate tumor suppressor gene in human hepatocellular carcinoma (HCC), a form of liver cancer that is the fifth most common cancer worldwide.

While it has been known for a long time that genetic inactivation of tumor suppressor genes can contribute to tumor development and progression, only more recently has it been determined that inactivating tumor suppressor genes by a mechanism known as epigenetic silencing has the same effect.

In the study, analysis of HCC tissue samples indicted that SCARA5 was frequently subjected to genetic loss and epigenetic silencing and that SCARA5 [protein](#) downregulation was most marked in HCC tissue samples characterized by tumor invasion into the blood vessels (a sign of aggressive disease).

Further analysis in HCC cells lines in vitro and after xenotransplantation into mice were consistent with SCARA5 being a [tumor suppressor gene](#). The authors therefore suggest that SCARA5 protein downregulation as a result of SCARA5 genetic loss and epigenetic silencing can contribute to HCC tumor development and progression.

More information: Genetic and epigenetic silencing of SCARA5 may contribute to human hepatocellular carcinoma by activating FAK signaling, View this article at: [www.jci.org/articles/view/3801 ... WYUeOaDgqG3U70r15PKV](http://www.jci.org/articles/view/3801...WYUeOaDgqG3U70r15PKV)

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