13th International Conference on
Structural and Molecular Biology: Techniques & Market Analysis
October 22-23, 2018 | Ottawa, Canada

Novel tumor suppressor SPRYD4 inhibits tumor progression in hepatocellular carcinoma by inducing apoptotic cell death

Umar Raza[3], **Kashif Rafiq Zahid**[1,2], **Shiming Han**[1] and **Fuling Zhou**[1,2]
[1]Liupanshui Normal University, China
[2]Zhongnan Hospital of Wuhan University, China
[3]National University of Medical Sciences (NUMS), Pakistan

Hepatocellular carcinoma (HCC) is one of the leading causes of cancer associated deaths worldwide. Although recent studies have proposed different biomarkers of tumor progression and therapy resistance in HCC, a better understanding of molecular pathways associated with progression and recurrence of HCC, and identification of molecular markers that present higher diagnostic accuracy are necessary for the development of more effective therapies. Here, we performed a meta-analysis to identify novel players of tumor progression in HCC and found that SPRYD4 expression is downregulated in patient tumor tissues as compared to non-tumor tissues. SPRYD4 expression is also less in HCC cell lines as compared to normal liver cell line, and is in line with the genes which are downregulated in HCC as compared to normal liver tissues. SPRYD4 expression was found inversely correlated with gene signature associated with proliferation in HCC whereas its overexpression inhibited cell viability and proliferation of HCC cell lines by inducing apoptotic cell death *in vitro*. High SPRYD4 expression is associated with good prognosis in HCC and is decreasing as tumor progressed towards aggressive stage and grade. Lastly, SPRYD4 expression is able to predict good overall and relapse free survival in HCC. Decrease in SPRYD4 expression in human HCC tissues can work as an independent predictor of poor prognosis in patients with HCC and elevating SPRYD4 expression may reduce HCC growth and progression through induction of apoptotic cell death, thereby providing a potential therapeutic target for HCC.

Biography

Umar Raza is an Assistant Professor at National University of Medical Sciences, Pakistan. He is also a PhD candidate at Bilkent University, Turkey. His topics of interest are Cancer Biology, Metastasis, microRNA, Breast Cancer, Molecular Biology and Genetics.

umer.raza@numspak.edu.pk

Notes: