conferenceseries.com PULSUS WWW.PULSUS.COM

Sarah Zijun Xian et al., J Liver 2017, 6:3(Suppl)
DOI: 10.4172/2167-0889-C1-015

CO-ORGANIZED EVENT

5th World Congress on Hepatitis & Liver Diseases

&

2nd International Conference on Pancreatic Cancer & Liver Diseases

August 10-12, 2017 London, UK

AKR7A3 suppresses tumorigenicity and chemoresistance in hepatocellular carcinoma through attenuation of ERK, c-Jun and NF-κB signaling pathways

Sarah Zijun Xian[1], Raymond Kwok Kei Chow[1], Ming Liu[2], Yan Li[3], Tim Hon Man Chan[4], Yangyang Song[4], Leilei Chen[4], Dora Lai-Wan Kwong[1] and **Xin-Yuan Guan[1]**

[1]The University of Hong Kong, Hong Kong
[2]Guangzhou Medical University, China
[3]South University of Science and Technology of China, China
[4]National University of Singapore, Singapore

Hepatocellular carcinoma (HCC), which accounts for 85-90% of primary liver cancer, is now the second leading cause of cancer-related mortality worldwide. Here, we reported that *aldo-keto reductase family 7A isoform 3* (*AKR7A3*) is frequently down-regulated in HCC, associating with poor overall survival rate, elevated serum α-fetoprotein (AFP) and poor differentiation of HCC. The promoter region of *AKR7A3* was detected to be hypermethylated. Loss of heterozygosity (LOH) was also detected in *AKR7A3*. Functional assays on both *AKR7A3* overexpressed and knockdown cells, including foci formation, colony formation in soft agar, migration, invasion and tumor formation in nude mice, demonstrated the strong tumor suppressive functions of *AKR7A3*. In addition, treatment of chemotherapy drug cisplatin showed that *AKR7A3* sensitizes tumor cells to apoptosis. Mechanistically, Western blot analysis showed that overexpression of *AKR7A3* inhibits the activation of ERK, c-Jun and NF-κB. In summary, we found that *AKR7A3* functions as a tumor suppressor gene in HCC through attenuating c-Jun, ERK and NF-κB signaling pathways.

Biography

Sarah Zijun Xian is a PhD Student in Department of Clinical Oncology, The University of Hong Kong. She received her Bachelor's Degree in Biotechnology from Shanghai Jiao Tong University. She received Hong Kong PhD Fellowship (HKPF) in 2015. Her research interests are Genetic regulation of liver cancer development.

zijun.xian@gmail.com

Notes: