3rd World Congress on

Pharmacology

August 08-10, 2016 Birmingham, UK

miR-297 modulates multidrug resistance in human colorectal carcinoma by down-regulating MRP-2

Ke Xu¹, Xin Liang² and **Jianwen Liu²** ¹Shanghai University of Traditional Chinese Medicine, PR China ²East China University of Science and Technology, PR China

Colorectal carcinoma is a frequent cause of cancer-related death in men and women. miRNAs (microRNAs) are endogenous small non-coding RNAs that regulate gene expression negatively at the post-transcriptional level. In the present study we investigated the possible role of microRNAs in the development of MDR (multidrug resistance) in colorectal carcinoma cells. We analysed miRNA expression levels between MDR colorectal carcinoma cell line HCT116/L-OHP cells and their parent cell line HCT116 using a miRNA microarray. miR-297 showed lower expression in HCT116/L-OHP cells compared with its parental cells. MRP-2 (MDR-associated protein 2) is an important MDR protein in platinum-drug-resistance cells and is a predicted target of miR-297. Additionally miR-297 was down-regulated in a panel of human colorectal carcinoma tissues and negatively correlated with expression levels of MRP-2. Furthermore, we found that ectopic expression of miR-297 in MDR colorectal carcinoma cells reduced MRP-2 protein level and sensitized these cells to anticancer drugs *in vitro* and *in vivo*. Taken together, our findings suggest that miR-297 could play a role in the development of MDR in colorectal carcinoma cells, at least in part by modulation of MRP-2.

Biography

Ke Xu received his PhD degree in Medicinal Chemistry from East China University of Science and Technology in 2013. After that, he worked in Winship cancer center of Emory University as a post-doctor fellow in the United State. At June 2015, he became a Research Associate of Putuo Hospital and Cancer Institute, Shanghai University of Traditional Chinese Medicine, study on pharmacology of traditional Chinese Medicine and the mechanism of miRNA in the gastrointestinal carcinoma.

cola519@163.com

Notes: