Ethics Committee Approval Sheet

NO. (Filled by committee)	20140188	**Research unit**	The First Affiliated Hospital of Zhengzhou University
Title of work	**Raddeanin A induces apoptosis and ameliorates 5-Fu-resistance in the cholangiocarcinoma cells**	**Research period**	2015.5-2018.5
Researchers	ShuangShuang Guo, Ying Wang, QingXia Fan	**Corresponding author**	QingXia Fan

Abstract

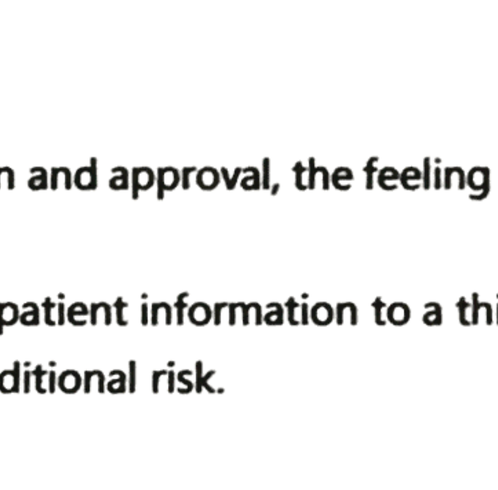
Four cholangiocarcinoma cell lines treated with Raddeanin A (RA) were used in this study. The RA-associated cell functional analysis, 5-Fu effectiveness, and cell cycle- and apoptosis-related protein were investigated. The results revealed that RA reduced cell viability with a dose-dependent pattern and the migration and colony formation abilities were impaired by RA in RBE and LIPF155C cell lines. RA sensitized cell lines to 5-Fu treatment and enhanced the effects of 5-Fu. RA decreased protein expressions of Wee1 while the combinational effect of RA and 5-Fu reduced Cox-2, bcl-2, and Wee1 whereas increased protein levels of Bax, Cyclin D1 and Cyclin E, respectively. The results suggest RA acts as an anti-cancer agent and enhancer of 5-Fu in bile duct cancer.

The applicants (researchers) promised :

1. This study USES the primitiveness analysis method;
2. The study by our hospital ethical committee for examination and approval, the feeling of all client signed consent form;
3. Anonymously to the statistics, this study will never release patient information to a third party, favorable results to guide diagnosis and treatment, patients do not take on additional risk.

Ethics committee:

This research is discussed by department of oncology, the First Affiliated Hospital of Zhengzhou University; agree approval to conduct the research.



Ethics committee (chapter):

Date: 20190311