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Silencing folate receptor alpha induced proliferation decrease and apoptosis increase of cervical cancer cells through mediating the ERK signaling pathway

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Proliferation and apoptosis of cervical cancer cells have important roles in cervical carcinogenesis. Folate receptor alpha (FR α) is highly expressed in human cervical cancer cells of Hela, however, the relationship of FR α and cervical cancer is unclear. ERK signaling pathway has been reported in many human carcinomas, but the association between ERK signaling pathway and cervical cancer is inconclusive. The present study aimed to investigate the effects of down-regulating FR α on cell proliferation and apoptosis and its interrelation with the ERK signaling pathway in Hela cells. FR α was silenced by siRNA interference in Hela cells. Cell proliferation and apoptosis were measured by CCK8 and flow cytometry (FCM). The protein expression levels of FR α were tested by FCM and the key transcription factors of ERK1/2 and c-fos and c-jun in ERK signaling pathway by Western Blot. Our results showed that after silence FR α , the cell proliferation was inhibited and apoptosis was induced, and the protein expression levels of p-ERK1/2, p-c-fos and p-c-jun were decreased. These findings suggested that down-regulating FR α might block cervical cancer progression through inhibiting proliferation and inducing apoptosis in cervical cancer cells, which were mediated through the ERK signaling pathway.

Biography

Lixia Bai has completed her Master Degree at the age of 26 years from School of Public Health, Shanxi Medical University in China in 2007. Currently she is pursuing her PhD degree in epidemiology from Shanxi Medical University. She is also a physician in Children's hospital affiliated to Shanxi Medical University, majoring in health-care associated infection management.

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