

19th Euro Congress on Cancer Science and Therapy & 25th Cancer Nursing & Nurse Practitioners Conference

July 17-19, 2017 Lisbon, Portugal

ITM2A, a frequently down-regulation in epithelial ovarian cancer, enhance anti-tumor effects and chemosensitivity of ovarian cancer

So Young Kim¹, Min Ji Cho², Eun-Ju Lee², Sang Hoon Cha¹ and Hong J Lee²¹Chungbuk National University, South Korea²Chung-Ang University School of Medicine, South Korea

Integral membrane protein 2A (ITM2A) is a type 2 transmembrane protein of unknown biological mechanism. The ITM2A protein expression was down-regulated in ovarian cancer tissue samples and cancer cells as compared to normal cells ($p < 0.0001$) using immunohistochemistry. Our study was to investigate its anti-tumor effects in epithelial ovarian cancer cells and to measure the function of ITM2A. Over-expressing ITM2A in ovarian cancer cells inhibited cell growth through the G2/M cell cycle arrest. A Matrigel invasion assay showed that ITM2A-transfected ovarian cancer cells reduced the colony formation. Moreover, over-expression of ITM2A attenuated invasiveness of ovarian cancer cells through the inhibition of MMP2, MMP7 and MMP9. To assess the chemosensitivity of ITM2A, chemo-sensitizing effects of ovarian cancer cells were measured using paclitaxel or carboplatin. ITM2A was remarkably reduced the anti-proliferative activities after chemo agent treatment. Taken together, our result showed that down-regulation of ITM2A could contribute to poor maintenance of epithelial ovarian cancer, affecting both cell growth and invasion. Furthermore, ITM2A increased chemosensitivity to chemo agent, and has therapeutic potential for ovarian cancer.

Biography

So Young Kim has completed her PhD from Chung-Ang University and is a Post-doctoral fellow at the Chungbuk University School of Medicine. She has published more than 30 papers in reputed journals.

biochemcau@naver.com

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