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## The effect of isoliquiritigenin-induced apoptosis and autophagy of human endometrial cancer cell line and underline mechanism

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Endometrial cancer occurs in women after menopause, is the fourth most common cancer in women in the United States. In Taiwan, due to the widespread use of hormone replacement therapy, the incidence of gynecologic cancer climbs to first place. In recent years, western countries begin the widespread use of herbal therapies, Isoliquiritigenin (ISL), one of the active components in licorice plant flavonoids, in past study, ISL had antioxidant, anti-inflammatory and tumor suppression effect. In this study, we investigated the antitumor effect of ISL on human endometrial cancer *in vitro* and *in vivo*. We used human normal endometrial cell lines, T HESCs and human endometrial cancer cell lines, Ishikawa, HEC-1A and RL95-2 as targets. To examined that the effect of ISL on the cell proliferation, cell cycle regulation, and apoptosis or autophagy related protein expression. In addition, we conducted *in vivo* experiment to confirm the inhibitory effects of ISL on cancer cell. As the current results show, ISL significantly inhibited the viability of cancer cell in a dose dependent and time dependent manner but has little toxicity on normal cell. And also, flow cytometry analysis indicated that ISL induced sub G1 phase arrest. Mechanistically, ISL enhanced the expression of PARP/LC3B II protein associated with apoptosis/autophagy. Furthermore, ISL suppressed the xenograft tumor growth *in vivo*. These findings suggest that ISL is a candidate agent for the treatment of human endometrial cancer and may play an important role in ISL-induced apoptosis, autophagy and cell growth inhibition.

## Biography

Hsin-Yuan Chen has completed her Master's degree from Taipei Medical University, Taiwan. She has received First Prize in Nutrition & Biotechnology Group in TMU 2015 Teachers and Students Joint Academic Symposium for an "Excellent Research Paper"

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